ASP.NET Web API Outline

## Introduction

* What is the Web API?
* What is REST?

## Demo – Introduction

* File -> New Project
* Contact Model
* ContactsController
* Snippet: wapi1-repo
* Get()
  + Show getting 1 and 2
  + Show Routes; make WebApiConfig
  + Show ugly 500; then add HttpResponseException for 404 – Fiddler
* Post() – just add and return
  + Shortcomings: need 201 and Location header
  + Helper for ApiLink()
  + Snippet: wapi2-apilinks
  + PPT

## Demo #2 – Validation w/Data Annotations

* Add Data Annotations; check ModelState
  + Snippet: wapi3-validation (for ELSE condition)

## Demo #3 – Scaffolding, Configuration, and Dependency Resolver

* Basketball Playbook:
  + Add Model Tag: Id and Name
  + Add Model Drill: Snippet: wapi4-drill
  + Scaffold TagsController (built-in scaffolding)
  + DbInitializer for Seed data
    - Snippet: wapi5-dbinitializer
  + Run app to show it works
  + Install-package WebApi.Scaffolding
    - Scaffold ApiController -ApiControllerName TagsController -ModelType Tag -DbContextType PlaybookContext -Repository
    - Scaffold “DrillsController”
    - Snippet: wapi6-tagdrillscontroller
      * Add “ChildApiRoute” -> “api/tags/{id}/drills”
* Config – IoC Dependency Resolver
  + Snippet: wapi7-depresolver (add NinjectDependencyResolver.cs)
  + Snippet: wapi8-depResConfig (in WebApiConfig)
* PPT

## Demo #4 – Filters

* Filters – Add [HandleApiError] attribute. Snippet: wapi9-handleapierror
* PPT

## Demo #5 – Media Type Formatters and Content Negotiation

* Media Type Formatters
  + Snippet: wapi10-csvmediatype
  + Add new JsonSerializerSettings with Indented Formatting
  + Manual Content Negotiation:
    - var negotiator = this.Configuration.Services.GetContentNegotiator();
  + OData
    - Convert Get() to IQueryable<Contact> - /api/tags?$filter=Name%20eq%20'Shooting'
* PPT

## Demo #6 – API Explorer

* ApiExplorer for documentation on HomeController
  + Snippet: wapi11-docsview
* PPT

## Demo #7 – Testing

* Add unit test: “TagsControllerTests”
* Snippet: wapi12-getunittest
* Snippet: wapi13-postunittest
  + Show problem with Request as null. Use HttpServer instead of mocking
  + Show HttpClient
  + Show Request, etc. populated and filters being executed
  + Must add connection string
  + Then inject DependencyResolver
* PPT

## Demo #8 – Hypermedia and UI

* Hypermedia
  + Snippet: wapi14-httpresource; Tag/Drill inherit
  + Snippet: wapi15-linkbuilderattr
    - add attribute to 3 controllers, change lists to HttpResourceList<T>
  + Fiddler Demo
* Add Basketball Playbook UI
  + HomeController – change Index() to return View(“drills”)
  + View Drills -> Snippet: wapi16-drillsview
  + Run UI